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Rental Housing Assistance (RHA) Blueprint
DATE: January 16, 2004
AUTHOR: RHA Blueprint Team



Exec Summary

In conjunction with an ongoing effort by the Department of Housing and Urban Development's (HUD) Office of the Chief Information Officer (OCIO) to implement a Department-wide enterprise architecture, the Offices of Public and Indian Housing (PIH) and Multi-Family Housing (MFH) have developed an Enterprise Architecture "Blueprint," for HUD's Rental Housing Assistance (RHA) line of business. Better alignment of IT investments in support of the Rental Housing Assistance business was determined a high priority based on the extreme maintenance costs of its IT systems, the overall inability of these systems to support the field operations and emerging business requirements, and continued HUD exposure to negative criticism from OMB, GAO, and Congressional committees.

The RHA team comprised of staff from PIH, MFH and the OCIO developed the Rental Housing Assistance Enterprise Architecture collaboratively during structured Blueprint workshop sessions from May to September 2003. The RHA Blueprint is based upon the 13 EA Principles and the Segment Architecture methodology developed under the Enterprise Architecture Practice. The Segment Architecture methodology is comprised of four components: Business, System and Architectural Profiles and an Implementation Plan.

Developing the Business, System and Architectural profiles involved identifying and defining the business functions and processes used by PIH and MFH, identifying the applications used by PIH and MFH and how they supported the business processes, performing alignments with the Federal Reference Models and developing separate process flows for PIH and MFH. Once this was completed, the RHA Blueprint Team developed a consolidated process flow representing the Rental Housing Assistance line of business. Areas where Rental Housing Assistance could leverage cross-cutting services and systems were then identified. Areas of particular note are the interaction with the Financial Management system being defined by the HUD Integrated Financial Management Integration Project (HIFMIP) and modules of a Grants Management system that could be leveraged to support current RHA business processes.

All of this information was used to develop an implementation plan for the RHA segment architecture. The major recommendation at this time is the funding of and participation in a RHA Business Process Re-engineering effort by both PIH and MFH. The results of this BPR will be used to update the FY'05 portfolio and shape the FY'06 submissions as well as provide more detail to the remainder of the implementation plan. Future IT investments should be functionally based, not program specific; represent the RHA line of business, not program office; and should seek to leverage complementary initiatives, such as HIFMIP and Grants Management.

In addition, recommendations for OCIO have been made to appoint Program Managers for RHA Blueprint maintenance/implementation and Grants Management; fund the development of the Grants Management blueprint; and define J2EE technical guidelines.

Introduction

HUD promotes the production and accessibility of affordable housing for renters through three major rental assistance programs that collectively provide subsidies to approximately 4.5 million households nationwide. Approximately 2/3 (\$20 billion) of HUD's annual appropriation funds the Rental Housing Assistance line of business.

HUD's Office of Public and Indian Housing (PIH) and the Office of Housing's Office of Multifamily Housing Programs are the two organizations directing these programs. Each office carries out many similar business functions and processes divided among the various individual, legislatively defined programs.

These offices rely on information technology systems to automate the operations and information collection functions related to the Rental Housing Assistance line of business including the intake and evaluation of applications, the calculation of rent subsidies, the administration of contracts, allocation of funds, the oversight and monitoring of the properties, the tenants, housing authorities and owners. Although substantial funds have been invested, and two consolidation efforts were attempted for part of the portfolio, substantial problems persist. It is well documented that current systems carryout overlapping functions, fail to support other important business functions, use obsolete technology that is expensive to maintain, are costly to modify to reflect changes in program requirements, are not user-friendly for field office personnel, and cannot aggregate data across the line of business to support decision makers.

In August 2003, the United States Office of Management and Budget (OMB) issued a memo that called on the Department to delay PIH and MFH systems acquisition until a Rental Housing Assistance target architecture, developed in this exercise, is completed. In addition to the OMB memo, PIH and MFH realized that a critical review of all IT systems was necessary to address current business and technology problems as well as emerging future requirements. In response, HUD's EA Team partnered with PIH & MFH to identify strategic business objectives, and align those objectives with the appropriate information needs and IT solutions. The target architecture ensures that new information systems development efforts are properly aligned with the core business functions carried out by the Rental Housing Assistance line of business.

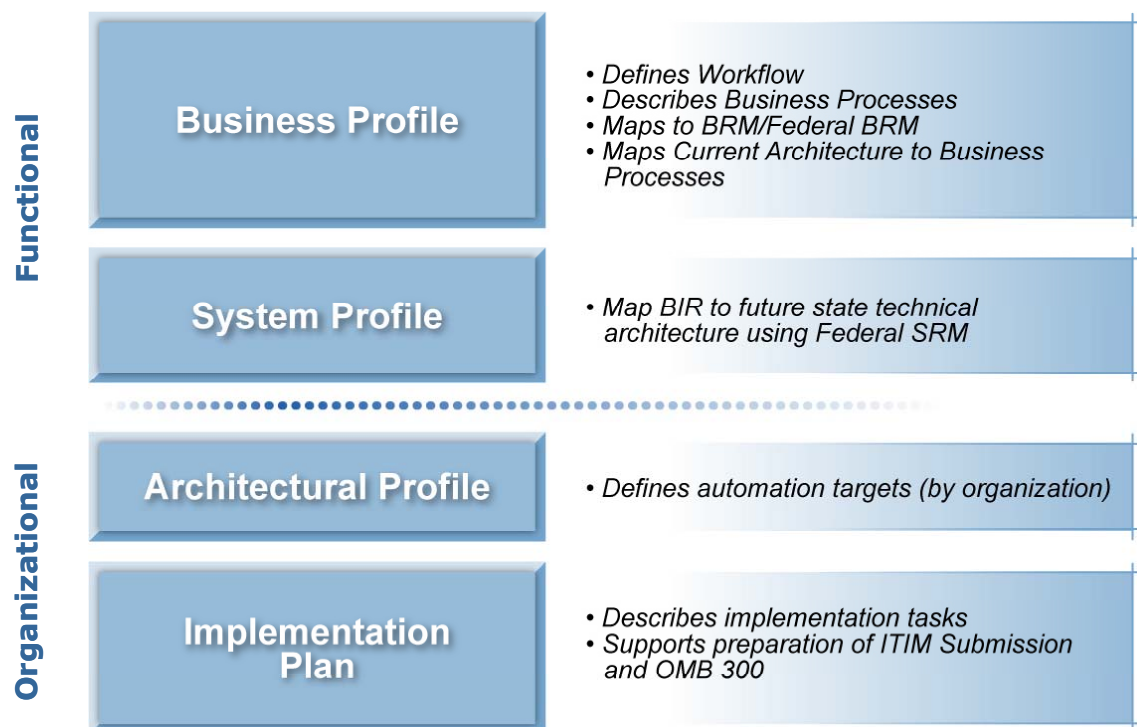
The 12 Blueprint Sessions were the initial phase of developing an Enterprise Architecture for the Rental Housing Assistance business segment within HUD. Our expectation is that future work will continue with business leads to decompose business processes into activities, engineer specific automation initiatives, and develop a more specific implementation plan.

About the Blueprint

HUD realizes its target Enterprise Architecture through the development of segment target architectures, called Blueprints, designed around core lines of business and enterprise-wide crosscutting business functions. Rental Housing Assistance (RHA) is a core line of business.

This document includes the components of a segment architecture blueprint as identified in the diagram below. The segment architecture components described in this Blueprint also define the initiative documentation for HUD's RHA line of business.

Chart 1. Blueprint (Segment Architecture) Components



Fundamental IT Principles

HUD's Enterprise Architecture has adopted a set of 13 principles that guide the development of the EA and the implementation of information technologies. Among these principles, the following were identified as the most relevant to the RHA Blueprint:

Core Business Operations. Rental Housing Assistance information systems historically have been developed around individual legislatively defined assistance programs. The RHA target architecture is a function-driven model rather than a program-driven model. Identifying and defining core business functions common to

multiple programs that make up the Rental Housing Assistance line of business and common to both organizations was a key first step to realize a common set of systems.

Enterprise Solutions. Where appropriate, the RHA target architecture leverages investments made for enterprise-wide technical solutions, such as, Financial Resources Management and Grants Management. This was tempered by the identification of business processes unique to RHA that require specific information systems.

Improve Flexibility. One goal was to eliminate inflexible “hard-wired” systems where possible (both within an office and between offices), and enable program offices to easily respond to program rule changes.

2.0 Business Profile

Business Process Analysis

Rental Housing Assistance is a core line of business defined as the provision of subsidies, including vouchers, low-rent public housing units and selective Housing grant programs, to enable low and moderate-income individuals and families to rent decent and safe housing.

HUD promotes the production and accessibility of affordable housing for families and individuals who rent through three major rental assistance programs that collectively provide subsidies to approximately 4.5 million households nationwide. First, under the Section 8 program, HUD provides subsidies to individuals (tenant-based) who seek housing from approved owners, and second, directly to property owners who set aside housing for low-income families (project-based). Third, HUD subsidizes the operation, maintenance and modernization of 1.2 million public housing units through local public housing authorities. In addition, HUD meets the specialized needs of the elderly and disabled through grants for the development and operation of supportive housing projects. Finally, HUD works with property owners, local governments, tenants and lenders to restructure expiring housing subsidy contracts to levels supportable by the rents. Approximately 2/3 (\$20 billion) of HUD’s annual appropriation funds the Rental Housing Assistance line of business.

HUD’s Office of Public and Indian Housing (PIH) and the Office of Housing’s Office of Multifamily Housing Programs are the two organizations directing these programs. Each office carries out many similar business functions and processes divided among the various individual, legislatively defined programs.

Current Workflow

Separate workflow views of Rental Housing Assistance representing the activities for PIH and MFH were developed during the working sessions. Identifying and defining the business process performed by each organization, then organizing them in a process flow representing all the programs led to the creation of these workflows. Participants worked collaboratively in Blueprint sessions, supplemented by individual interviews, to define common terms and processes as well as to document business drivers that will affect programs in the near and long term. Business process definitions are located in Appendix A. The individual organization workflow diagrams can be found in Appendix B.

Map RHA Business Processes to the Federal BRM

The business processes identified during sessions with the PIH and MFH personnel were mapped to the Federal Business Reference Model. These mappings were used to identify areas of commonality between the processes of the two organizations. In addition, these mappings will be used for supporting documentation in the OMB 300 submissions as required. The mapping matrix for PIH and MFH business processes to the Federal BRM is located in Appendix C.

Map Current Systems to RHA Business Processes

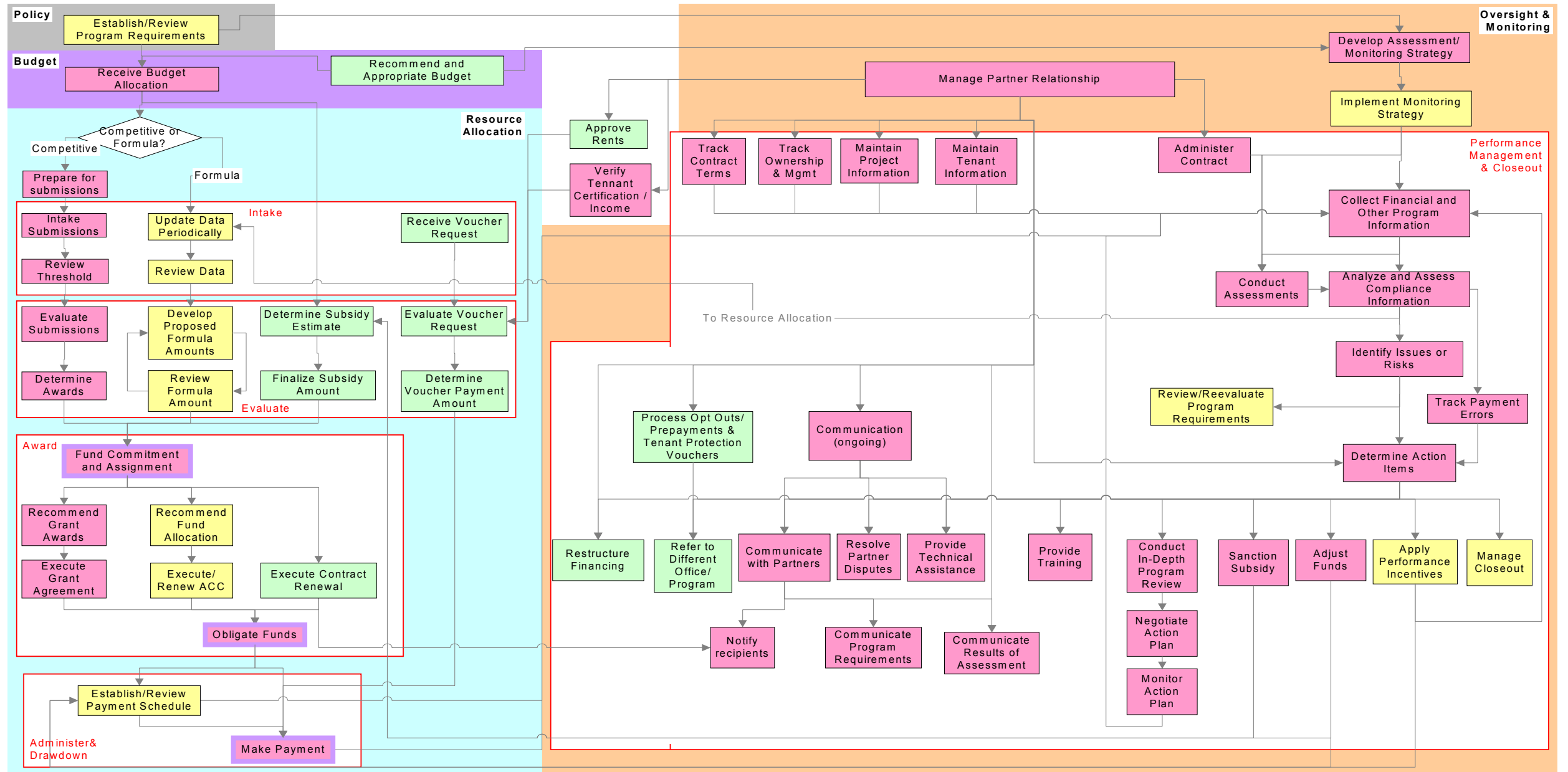
The business processes were then mapped to applications supported by PIH and MFH. There are two types of support an application provides to a business process, processing and data. Processing support includes business and programmatic intelligence within the application. Data support includes a report or a data extract to enable further analysis. The mapping matrix for PIH and MFH Business Processes to Applications is shown in Appendix C.

Identify Consolidated RHA Process Flow

After PIH and MFH had developed their workflows independently, the models were overlaid to identify which business processes were defined as common between the two organizations. The overlay process model was reviewed with participants from PIH and MFH where a significant number of business processes were identified as common to both organizations.

The current Consolidated Rental Housing Assistance Process Flow follows in Chart 2.

Chart 2. Rental Housing Assistance Process Flow



Legend: Yellow box – PIH-defined only

Green box – MFH-defined only

Pink box – PIH & MFH defined

Purple outline – HIFMIP Process

Rental Housing Assistance Blueprint

3.0 Systems Profile

Map Business Information Requirements to Federal SRM

The applications supporting Rental Housing Assistance business processes for both PIH and MFH were mapped to the Federal Service Component Reference Model (SRM). These mappings were used to identify common services currently being provided through automation as well as identifying areas that should have improved automation support. In addition, these mappings were used to identify automation targets for the target architecture. The mapping matrix for PIH and MFH applications to the Federal SRM is located in Appendix D.

Relationship to Grants Management (Grants.gov)

During the analysis of the current RHA business architecture, it was noted that significant numbers of business processes were similar to the processes defined in HUD's Grants Management. The areas of similarity have been identified in **Chart 2. Rental Housing Assistance Process Flow** shown above. Within that diagram, the white boxes with red outlines represent the Grants Management processes. The boxes have been drawn to indicate which RHA business processes are similar to the Grants Management process.

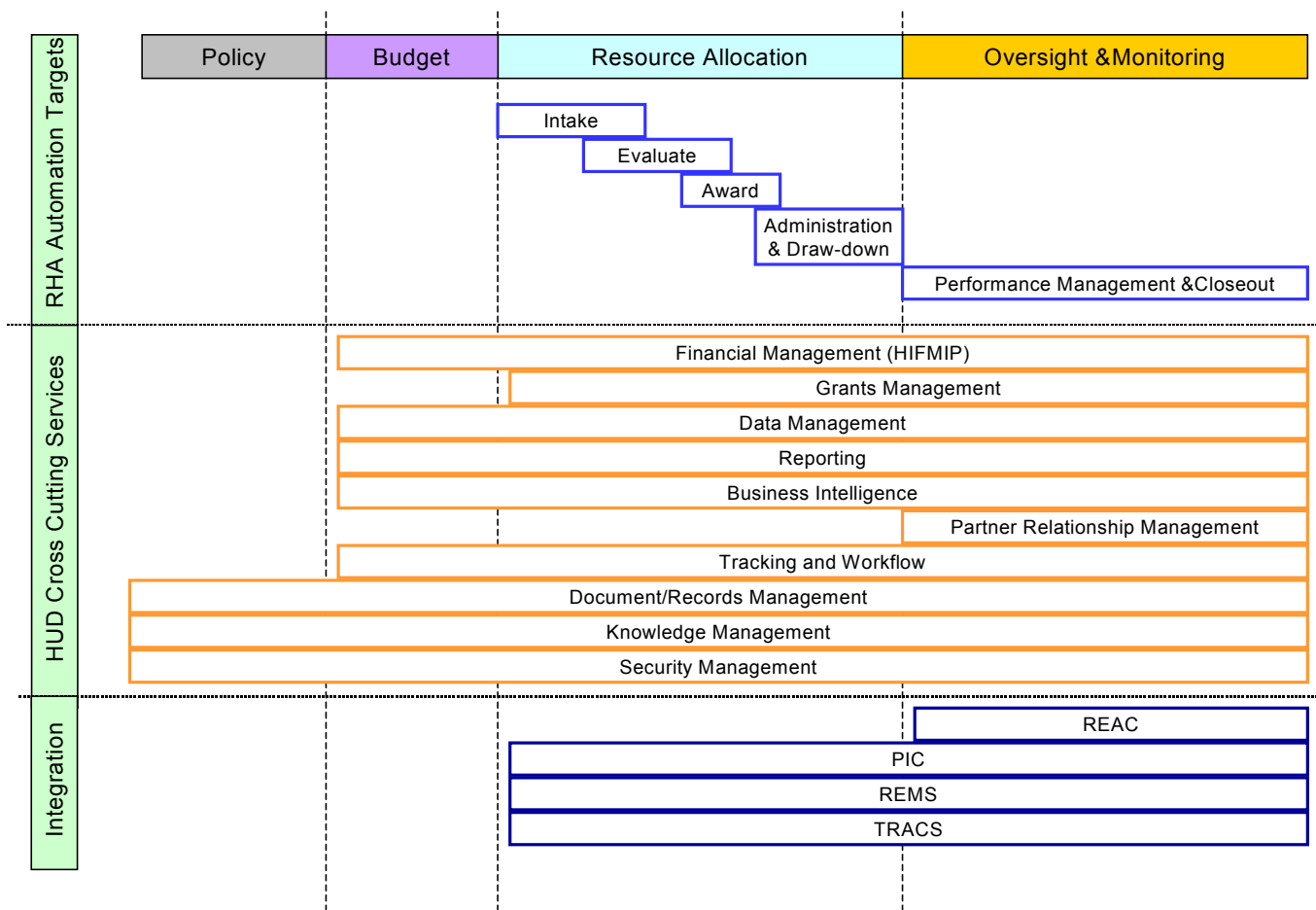
4.0 Architectural Profile

A number of observations regarding the target architecture can be made:

- Public and Indian Housing (PIH) and Multi-family Housing (MFH) execute common RHA business processes within two business functions: Resource Allocation, and Oversight and Monitoring.
- The RHA line of business contains business processes that are common to the Grants Management support line of business.
- Opportunities exist to leverage HUD cross-cutting services, e.g.:
 - Financial Management
 - Tracking and Workflow Management
 - Business Intelligence
 - Data Management
 - Document/Records Management

A graphic representation of the target architecture for Rental Housing Assistance follows in Chart 3.

Chart 3. Target Architecture for Rental Housing Assistance



Automation Targets

As noted earlier, Rental Housing Assistance shares similar business processes with the Grants Management segment. Components of a future Grants Management system that could be leveraged to support RHA business processes have been identified as automation targets in the Rental Housing Assistance segment target architecture.

Integration Targets

Several of the existing systems within the RHA line of business have been identified as integration targets. It is expected that the results of the recommended Business Process Re-engineering effort will drive if and/or how these systems will provide RHA-specific support, particularly their role in enabling the integration with cross-cutting services.

5.0 Implementation Plan

In order to achieve the target architecture, the EA Team has developed a number of recommendations. These recommendations are organized into several categories (RHA, PIH only, MFH only and OCIO) for implementation. In addition, several portfolio investment guidelines have been identified to facilitate the implementation of the target architecture.

Implementation Strategy (Next Steps)

Recommendations FY'04

Rental Housing Assistance Recommendations:

- Create RHA Integrated Program Team (IPT)
- Conduct Business Process Re-engineering effort (BPR) across Rental Housing Assistance line of business
- Update the RHA Blueprint to reflect findings of the BPR
- Update FY'05 portfolio and define FY'06 portfolio investments across the RHA line of business, i.e., not by program office
- Assign representatives from the RHA IPT to participate in Grants Management IPT to shape the design of the enterprise-level Grants Management Blueprint

PIH Recommendations:

- Proceed with FY '04 investments (discussion):
 - Limit PIC Maintenance (\$4.1M) only to maintenance; strip out development from the Maintenance line item
 - Conduct any new development in the J2EE environment
 - Update FY'04 procurement plan to fund participation in the RHA BPR
 - Apply the findings from the RHA BPR to reshape the FY'05 portfolio and define FY '06 submissions
- Fund review of existing technical transition strategy to bring REAC into compliance with HUD's future state technical architecture (FSTA)

MFH Recommendations:

- Hold decisions on future development of TRACS and components of REMS that support the RHA line of business until BPR is complete

Office of the Chief Information Officer Recommendations:

- Appoint a Program Manager to manage the RHA blueprint maintenance and implementation
- Define J2EE technical guidelines to support development activities and transition to the Future State Technical Architecture (FSTA)
- Establish schedule for FSTA transition relative to the HITS infrastructure contract transition schedule
- Fund the Grants Management Blueprint development
- Appoint a Grants Management Program Manager

Recommendations FY'05

RHA Portfolio Investment Guidelines:

- Investments should be functionally based and not program-specific. Relevant business functions include:
 - Resource Allocation
 - Oversight and Monitoring
 - Partner Relationship Management/Communications
 - Upfront Income Verification
- Investments should seek to leverage complementary initiatives, e.g.:
 - HIFMIP
 - Grants Management
- Investments should support the transition of select RHA systems to HUD's future state technical architecture, e.g., REAC subsystems to Oracle 9i
- Funds must be set aside to support the annual review and maintenance of the RHA blueprint. Annually approved IT Architecture is a pre-requisite for investment.

Next Steps

In order to produce a more comprehensive RHA Blueprint, a number of additional activities must be completed. However, these activities are subject to the completion of the BPR for the RHA line of business. The additional blueprint activities to be completed are as follows:

- Optimize business processes to develop target RHA workflow(s)
- Define common and unique business and information requirements for PIH and MFH
- Conduct a gap analysis for RHA business and information requirements relative to current systems
- Define RHA automation targets by organization
- Define RHA integration targets, e.g., HIFMIP and Grants Management
- Update the implementation plan, i.e., Program/project investments for FY'05 and FY'06

Appendix A – Rental Housing Assistance Business Process Definitions

Name	Definition
Adjust Funds	Communicate payment or recapture amounts to financial systems and/or managers for further action as well as validate payments or obtain information on status of payments. Modify payment or subsidy amounts in financial systems.
Administer Contracts	Manage PBCA contracts including contract assignments, awarding contracts, etc.
Analyze and Assess Compliance Information	Determine if the recipient's performance is aligned with the agreement: establish performance baselines, track use of funds and deliverables, determine risk factors, develop work plan. Use business intelligence to identify trend, exception or outlying data that would trigger further monitoring and/or oversight activities. Includes threshold evaluation of FASS, MASS and PASS submissions as well as preliminary evaluation and scoring of assessments.
Apply Performance Incentives	Implement program performance incentives to increase funding, reduce reporting or both.
Approve Rents	Review owner requests for rent increases, determine the correct formula/basis for rent increases and calculate the appropriate new rents for various bedroom sizes; Evaluate the impact of rent increases on project reserves and available subsidy funds.
Collect Financial and Other Program Information	Collect program information from HUD systems. Collect required reports from recipient. Includes receiving submissions to support REAC assessment sub-systems.
Communicate Program Requirements	Describe to recipients types and frequency of reporting required for compliance.
Communicate Results of Assessment	Document and distribute assessment results within HUD and to external partners and individuals. Includes warning notices detailing required responses to avoid punitive action.
Communicate with Partners	Communicate information related to the status of the relationship, funding, program requirements, etc. and receive feedback from partners. Provide stakeholders with reports on benefits generated as a result of the operation of the program. Partners include oversight agencies such as Congress and GAO as well as housing authorities, owners and their agents.
Communication (ongoing)	Process obligating document for award
Conduct Assessments	Analyze and/or score compliance information. Assess areas of partner management controls, financial operations, product or output quality, and assessment of compliance with civil rights, equal opportunity, and labor laws.

Appendix A – Rental Housing Assistance Business Process Definitions

Name	Definition
Conduct In-Depth Program Review	Assess submitted materials, research precedents, and determine disposition of the issues; Investigate fair housing complaints; Develop corrective action recommendations. May also include in-depth assessments of physical, financial and management practices at PHAs or PBCAs.
Data Review	Reconcile new data with historical data, querying for outlying data and identifying changes to the formula.
Determine Action Items	Determine whether further action is warranted for a recipient. Follow on activities may include: Resolution of issues identified through review, audit and investigation activities, adjudication, provision of services to resolve controversies.
Determine Awards	Aggregate and evaluate data, apply formula or other applicable criteria to allocate grant funding.
Determine Subsidy Estimates	Locate and analyze data supporting ongoing subsidies for rental housing; synthesize data to create decision-making information for continued contract fund allocations at present or modified levels; evaluate subsidies variance over time and construct trends for appraising validity of projections.
Determine Voucher Payment Amount	Analyze data to determine amount of tenant rental subsidy to be paid to owner.
Develop Assessment/Monitoring Strategy	Determine planning activities, including: define areas, strategies, and schedules for reviews; identify areas to be emphasized; develop performance criteria; take action against non-compliant entities. Determine standards and goals as well as the units of measure used to establish the performance baseline. Standards and goals are obtained from the Secretary's initiatives, statutes, regulations, and HUD objectives. Establish expectations and deliverables for recipient.
Develop Proposed Formula Amounts	Determine allocations based on the formula. Apply funding adjustments.
Establish/Review Payment Schedule	Reconcile obligated amounts with recommended amounts, establish or revise payment schedule, thresholds and caps, facilitate receivables and funds disbursement. Cancel or de-obligate funding when appropriate.
Establish/Review Program Requirements	Establish and maintain guidelines and requirements for the assistance provided.
Evaluate Submissions	Conduct all steps necessary to score, rank and select potential grantee.
Evaluate Voucher Request	Conduct all activities required to verify accuracy of tenant rental subsidy amount requested by owner.
Execute/Renew ACC	HUD representative and/or recipient renews or signs annual contribution contract or other agreement. Requirements for execution vary by program.

Appendix A – Rental Housing Assistance Business Process Definitions

Name	Definition
Execute Contract Renewal	Recipient renews or signs annual contribution contract, HAP contract or other agreement. Requirements for execution vary by program.
Execute Grant Agreement	Grantee signs grant agreement.
Finalize Subsidy Amount	Validate the estimated amount against HUD data on rents, tenant payments and contract terms.
Identify Issues or Risks	Representative activities include: Review PHAS score to determine if corrective action is necessary; Determine jurisdiction; Identify and documenting findings and concerns; Review trends and patterns; Determine need to refer issues for enforcement, adjudication, or sanctions where partner performance or partner compliance with requirements falls below minimum thresholds.
Implement Monitoring Strategy	Track recipient's performance against agreement: establish performance baselines, track use of funds and deliverables, determine risk factors.
Intake Submissions	Confirm former grantee identities, format data according to geo-code standards formatting, provide an application kit or plan template and receive the application or plan.
Maintain Project Information	Maintain data on project location, size, unit mix, client groups served, financial reporting requirements and status of project loans, capital advances and subsidies.
Maintain Tenant Information	Maintain current and historical data on households receiving housing assistance; includes income (and source of income), expenses, allowances, deductions for each household member, citizen status & family relationships, and limited data on other residents (e.g., care givers).
Make Payment	Facilitate funds disbursement; Resolve payments withheld due to incorrect amount requested, expired contract or insufficient funds; Cancel or de-obligate funding where appropriate.
Manage Closeout	Facilitate the close-out and audit portions of the award life cycle.
Manage Partner Relationship	Increase stakeholder visibility into business partner execution of agreements and use of fund; provide consistent performance measurement at partner operational level; perform website content management; industry conference presentation and participation.
Monitor Action Plan	Determine if the recipient's performance is aligned with the action plan.
Negotiate Action Plan	Work with partner to determine corrective action. Enforcement actions may include conciliation, arbitration, sanction, denial of participation, penalties and/or corrective enforcement actions.
Notify Recipients	Notify potential grantees of award decision
Ongoing Communication	Facilitate interaction between the stakeholder and HUD.

Appendix A – Rental Housing Assistance Business Process Definitions

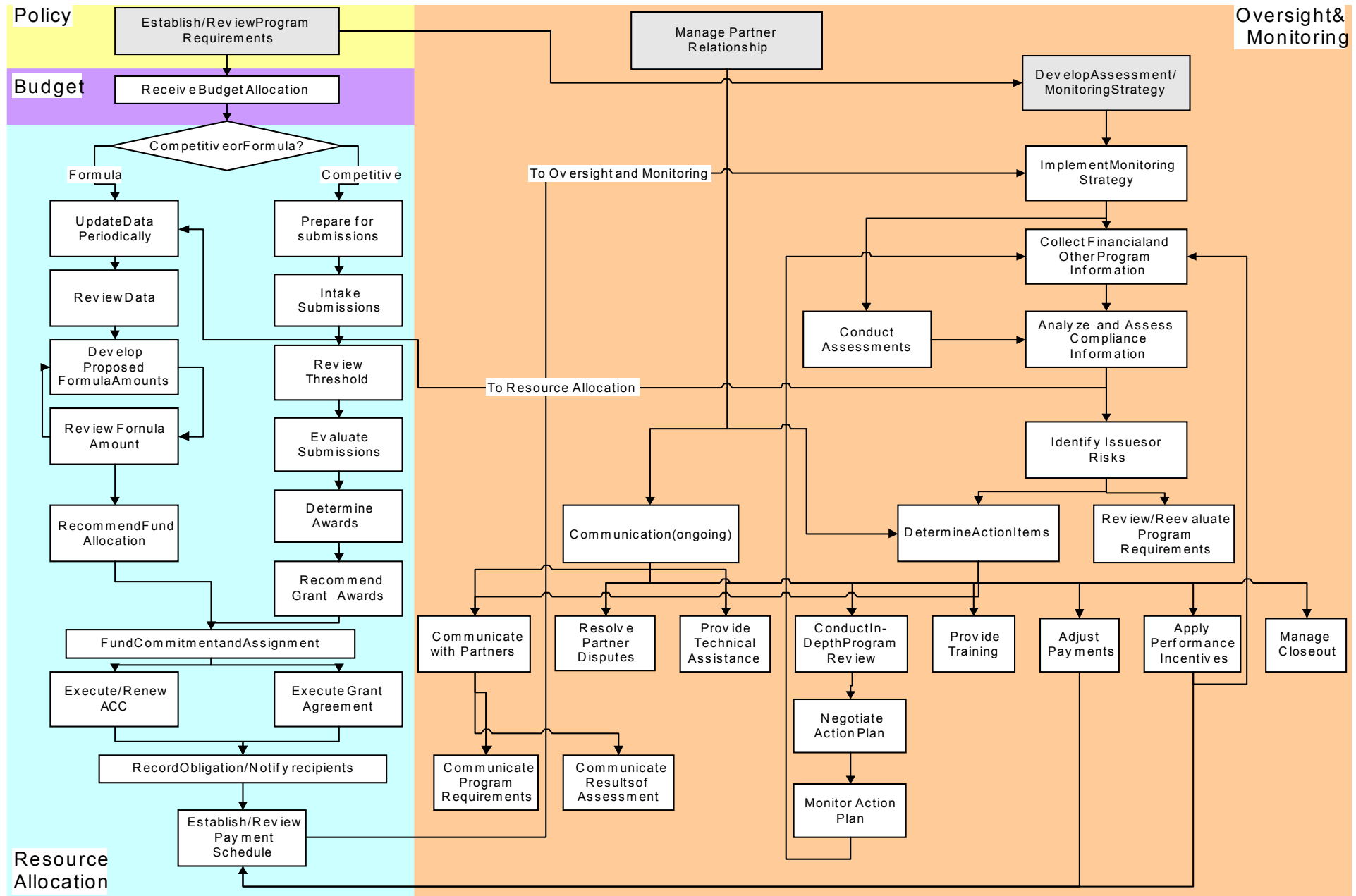
Name	Definition
Prepare for Submissions	Prepare for grant submission: activities include system updates to accommodate new required data elements or form changes.
Process Opt Outs/Prepayments & Tenant Protection Vouchers	The coordinated efforts of Multifamily, PIH and local housing authorities to protect tenants affected by the decision of project owners to prepay their subsidized mortgages or their decision not to renew a Section 8 contract (opt out).
Provide Technical Assistance	Provide training and technical assistance to partners to help them understand HUD requirements and properly administer their individual program.
Provide Training	Train HUD staff as well as contractors who perform as HUD agents (e.g. PASS assessors).
Receive Budget Allocation	Receive official notification of budget amounts.
Receive Voucher Request	Receive monthly payment requests from project owners.
Recommend and Appropriate Budget	Process to determine and revise budget amounts for programs.
Recommend Fund Allocation	Prepare allocation package, including program material and recommended formula amounts for obligation approval.
Recommend Grant Awards	Prepare to execute a grant agreement including submission of recommended grant award amounts and program documents to approval authority.
Refer to Different Office/Program	Involve other offices/programs to address issues or provide housing assistance through another program.
Resolve Partner Disputes	Carry out procedures to resolve disputes where partner asserts a right to disagree with a HUD decision that affects the partner.
Restructure Financing	Review owner requests for debt restructuring or changes to project rents and subsidy terms necessary to maintain the project as an affordable rental resource.
Review Formula Amount	Perform sanity check on formula amounts. Review proposed formula amounts to ensure program goals are being met.
Review Threshold	Audit submissions to ensure the application conforms to the NOFA requirements.
Review/Reevaluate Program Requirements	Review guidelines and requirements for the assistance provided, adjust based on recipient performance.
Sanction Subsidy	Initiate sanctions (suspension of the contract, abatement of payments, temporary withholding of monthly payments, contract termination) in response to the failure of the owner to comply with program rules.
Track Contract Terms	Record and monitor the terms and stages of each subsidy contract, expiration dates, the type of subsidy and number of units and various bedroom sizes assisted for each assistance contract.

Appendix A – Rental Housing Assistance Business Process Definitions

Name	Definition
Track Ownership & Management	Track history of all changes in project ownership and management agents, including fiscal year reporting dates.
Track Payment Errors	Identify instances where the payment amount submitted by a project owner would have resulted in an overpayment or underpayment of subsidies on behalf of a particular tenant.
Update Data Periodically	Aggregate and analyze data used as basis for allocation including: annual plan data, historical program data, former grantee identities, and appropriate external data.
Verify Tenant Certification/Income	Determine income of tenant for use in accurately calculating amount of rent subsidy.

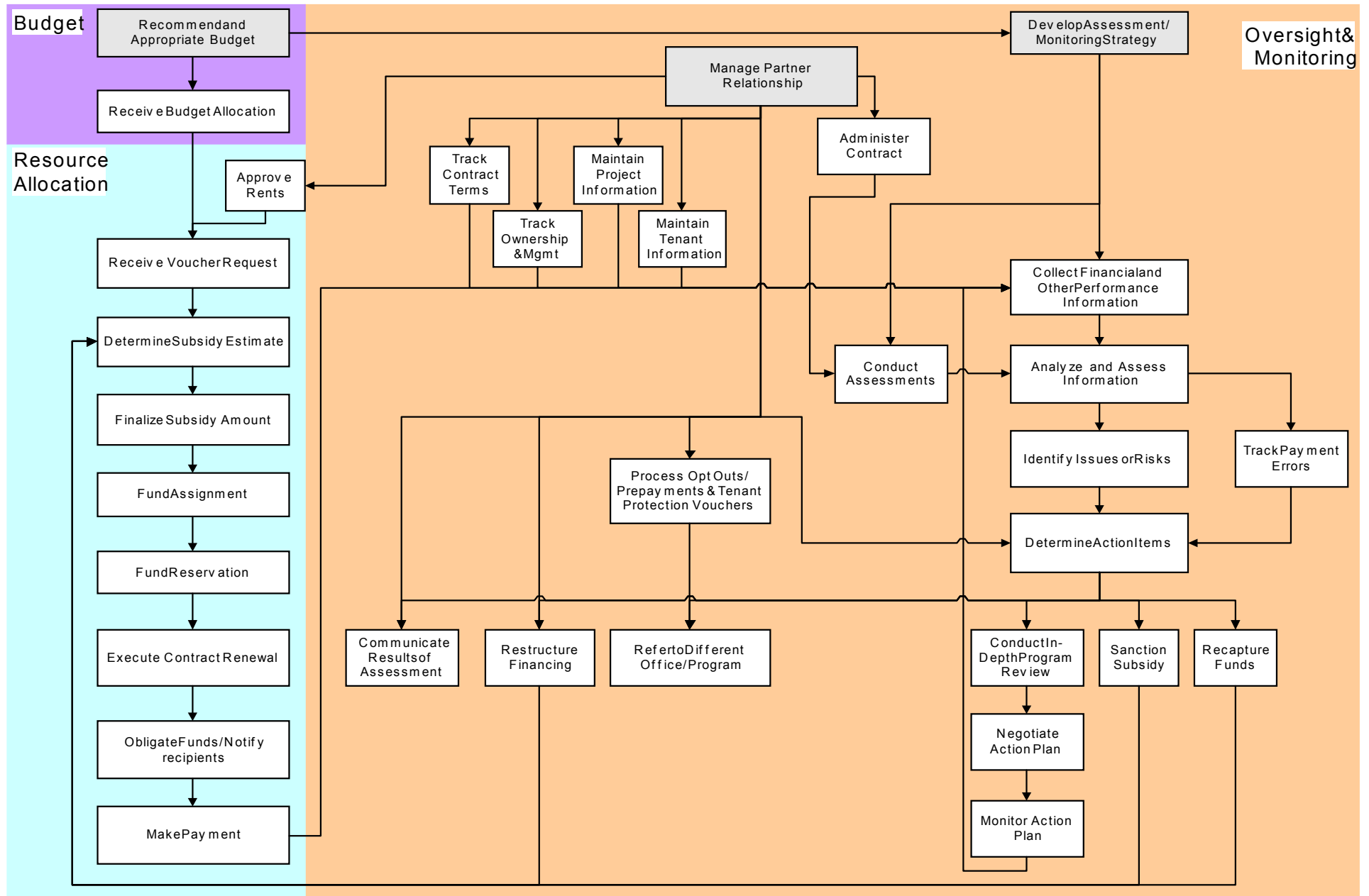
Appendix B – Rental Housing Assistance Workflows by Organization

Public and Indian Housing



Appendix B – Rental Housing Assistance Workflows by Organization

Multi-Family Housing



Appendix C – Federal BRM Mapping Matrices

Public and Indian Housing

Federal BRM			PIH	Current Applications																														
				PIH Enterprise												HUD Central				Cuff														
Business Area	Line of Business	Sub Function	Business Process	HOPE VI Database	Indian Housing Plan	Native eDGE	PIC – 50058	PIC – Housing Inventory	PIC – Risk Assessment	PIC – SEMAP	PIC – UIV	REAC – CASS	REAC – FASS PHA	REAC – MASS	REAC – NASS	REAC – PASS	REAC – RASS	REAC – TASS			DataMart	HUDCAPS	LOCCS/eLOCCS	PAS – Program Accounting System			BIRD	Capital Fund Formula	GMC – Access Database	Native American Access Database	Op Fund Interim Database	PHA Plans website	Voucher Data Collection Site	Voucher Mgmt Database
Management of Government Resources	Human Resource Management	Resource Training And Development	Provide Training										P			P																		
Mode of Delivery - Financial Vehicles	Transfers to States and Local Governments	Formula Grants	Data Review																															
			Develop Proposed Formula Amounts																										P	P	P	P		P
			Execute/Renew ACC																															
			Formula Amount Review																									P		P	P		P	
			Periodic Data Update		P		P	D		D				D	D	D	D	D	D			D	D	D	D					P		P	D	D
			Recommend Fund Allocation																										P					
		Project/Competitive Grants	Determine Awards	D																										P	D			
			Evaluate Submissions	D				D						D	D	D	D	D					D	D	D					P	D			D
			Execute Grant Agreement																												D			
			Intake Submissions	D				D								D									D	D				P	D			

Appendix C – Federal BRM Mapping Matrices

Multi-Family Housing

Federal BRM			Multi-Family Housing	Current Applications																					
Business Area	Line of Business	Sub-Function	Business Process	MFH Enterprise														HUD Central				Reports			
				APPS	CODE/1 - Address Validation	DAP	F47	LAS	M2M	REAC – FASS FHA	REAC – NASS	REAC – PASS	REAC – RASS	REAC – TASS	REMS	TRACS	TRACSMail		BOSS	HUDCAPS	LOCCS/eLOCCS	PAS – Program Accounting System		PD&R Survey	PBCA Reports
Mode of Delivery - Financial Vehicles	Federal Financial Assistance	Federal Grants (Non-State)	Approving Rents													P	P								
			Determine Subsidy Estimate												P	P		P	P						
			Execute contract renewal												P	P									
			Finalize Subsidy Amt													P									
			Financial Restructuring			P	P		P					P											
			Receive Voucher request														P								
			Tracking contract terms												D	P					P				
Support Delivery of Services	Controls & Oversight	Corrective Action	Monitor Action Plan												P										
			Negotiate Action Plan												P										
		Program Evaluation	Analyze & Assess Compliance Information						P	P	P		P	D	D										
			Conduct Assessments						P	P	P		P	D	D			D	D	D					
			Determine Action Items						D	D	D		D	D	D										
			Identify Issues & Risks						D	D	D		D	D	D			D	D	D					
			In-depth Program Review						D	D	D		D	D	D			D	D	D					
		Program Monitoring	Collect Fin & Perf Info		P					P	P	P		P	P	P	P		D	D	D				

Appendix C – Federal BRM Mapping Matrices

			Maintain Project Information			D	D	D		D	D		P	P				D		D	D	D
			Maintain Tenant Information										P									
			Track Ownership & Mgmt	P									P	P								
			Track Payment Errors																	D	D	D
	Planning & Resource Allocation	Budget Execution	Make Payment													P	P					
			Fund Reservation										P			P	P					
			Funds recapture										P			P	P					
			Obligate Funds/Notify Recipients										P			P	P					
			Opt Outs/Prepayments & Tenant Protection Vouchers										P	P		P	P					
			Receive Budget Allocation													P						
			Subsidy Sanctions										D	P		P	P					
	Public Affairs	Customer Services	Communicate Results of Assessment						P	P	P		P	P	P							
			Referrals to different office/program							P			P									
	Regulatory Development	Policy & Guidance Development	Develop Assessment/Monitoring Strategy																			
Management of Government Resources	Financial Management	Budget & Finance	Fund Assignment											D		P						
	Supply Chain Management	Services Acquisition	Contract Administration										P	D			D					

Legend:

D - Data Extract or Report used; No processing intelligence

P - Processing Support; System Automation and/or Intelligence

Appendix D – Federal Service Reference Model Mapping Matrices

Public and Indian Housing

	Existing Systems																													
	PIH Enterprise																	HUD				Cuff								
Federal Service Components	Hope VI Database	Indian Housing Plan	Native eDGE	PIC – 50058	PIC – Housing Inventory	PIC – Risk Assessment	PIC – SEMAP	PIC – UIV	REAC – CASS	REAC – FASS PHA	REAC MASS	REAC - NASS	REAC - PASS	REAC - RASS	REAC - TASS	REAC - QASS	REAC - WASS	Datamart	HUDCAPS	LOCCS/eLOCCs	PAS – Program Accounting System	BIRD	Capital Fund Formula	GMC Access Database	Native American Access Database	OP Fund Interim Database	PHA Plans Database	Voucher Data Collection Site	Voucher Management Database	
Customer Services																														
CRM																														
Partner Relationship Management			■						■	■	■	■	■	■	■	■														
Contract Management														■																
Process Automation Services																														
Tracking and Workflow	■	■					■			■	■	■	■	■	■	■				■	■	■				■			■	
Business Management Services																														
Management of Process																														
Program/Project Management	■			■	■	■	■	■	■	■	■	■	■	■	■	■				■				■	■	■	■	■	■	■
Business Rules Management	■					■	■	■		■	■	■	■	■	■					■	■	■		■	■	■	■			■
Risk Management						■		■		■	■	■	■			■														
Digital Asset Services																														
Document Management																														
Knowledge Management			■						■	■			■																	
Business Analytic Services																														
Business Intelligence				■																										
Reporting	■			■				■		■				■	■															
Back Office Services																														
Data Management	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■		■							■	■	■	■	■	■

[illegible]

Appendix D – Federal Service Reference Model Mapping Matrices

Multi-Family Housing

	Existing Systems																			
	MFH Enterprise													Central			Reports			
Federal Service Components	Apps	CODE1/Address Validation	DAP	F47	LAS	M2M	REAC FASS FHA	REAC - NASS	REAC - PASS	REAC - RASS	REAC - TASS	REMS	TRACS/TRACSMail	BOSS	HUDCAPS	LOCCs/eLOCCS	PAS – Program Accounting System	PD&R Survey	PBCA Reports	FO Reports
Customer Services																				
CRM																				
Partner Relationship Management				■			■	■	■		■	■	■					■	■	■
Contract Management												■	■							
Process Automation Services																				
Tracking and Workflow	■		■				■	■	■		■		■		■	■	■			
Business Management Services																				
Management of Process																				
Program/Project Management			■				■	■	■		■		■							
Business Rules Management							■	■	■		■	■	■		■	■	■			
Risk Management							■	■	■											
Digital Asset Services																				
Document Management																				
Knowledge Management																				
Business Analytic Services																				
Business Intelligence						■						■	■							
Reporting							■					■	■					■	■	■
Back Office Services																				
Data Management		■	■	■	■		■	■	■		■	■	■					■	■	■

Appendix D – Federal Service Reference Model Mapping Matrices

Financial Management			■	■	■	■	■						■	■	■	■	■	■	■	■
Asset/Materials Management									■				■	■						
Support Services Domain																				
Security Management																				
Collaboration																				
Search																				
Communication							■	■	■		■	■	■							
Forms Management																				

Appendix E – Rental Housing Assistance Enterprise Architecture Team

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